

Amendments to the Claims

Please replace all prior versions and listings of claims in the Application with the following Listing of Claims.

Listing of Claims:

1. **(Currently Amended)** A computer-based method for collecting dependency data specifying dependency relationships between networked resources, the method including:

monitoring a first managed networked resource via a software agent executing on the first managed networked resource, wherein the software agent is managed by a software manager executing remotely from the first managed networked resource;

collecting, by the software agent executing on the first managed networked resource, configuration data describing [[a]] the first managed networked resource, wherein the configuration data is collected from communications between the first managed networked resource and one or more other networked resources; ~~via a software agent executing on the first networked resource;~~

extracting, [[via]] by the software agent executing on the first managed networked resource, dependency data from the configuration data, the dependency data specifying either provider or consumer dependency relationships between the first managed networked resource and the one or more other networked resources, wherein said provider dependency relationship indicates that a problem at the first managed networked resource will propagate to the one or more other networked resources, and said consumer dependency relationship indicates that a problem at the one or more other networked resources will propagate to the first managed networked resource;

[[and]]

populating a repository with the dependency data, wherein the repository is stored separate from other configuration data collected by the software agent; and

communicating the dependency data from the software agent to the software manager.

2. **(Currently Amended)** The method of claim 1, wherein the repository is stored on the first managed networked resource.
3. **(Currently Amended)** The method of claim 2, further including:
collecting dependency data from a plurality of networked resources including the first managed networked resource; and
storing the dependency data in a repository centralized within a distributed systems management environment, wherein the centralized repository is stored in the software manager of the distributed systems management environment separately from other configuration data associated with the plurality of networked resources.
4. **(Currently Amended)** A computer-based method for communicating dependency data specifying dependency relationships between network devices, including:
monitoring a first managed network device via a software agent executing on the first managed network device, wherein the software agent is managed by a software manager executing remotely from the first managed network device;
collecting, by the software agent executing on the first managed network device, configuration data describing [[a]] the first managed network device, wherein the configuration data is collected from

communications between the first managed network device and one or more other managed network devices; via an agent executing on the first managed network device;

extracting, ~~[[via]]~~ by the software agent executing on the first managed network device, dependency data from the configuration data, the dependency data specifying either provider or consumer dependency relationships between the first managed network device and the one or more other managed network devices resources, wherein said provider dependency relationship indicates that a problem at the first managed network device will propagate to the one or more other managed network devices resources, and said consumer dependency relationship indicates that a problem at the one or more other managed network devices resources will propagate to the first managed network device;

generating a table that includes the extracted dependency data, wherein the table is stored separate from other configuration data associated with the first managed network device that has been collected by the software agent; ~~[[and]]~~

offering access to the table, the access being offered via a dependency interface of the software agent and using for a distributed systems management protocol on the agent; and

communicating the dependency data from the software agent to the software manager.

5. **(Original)** The method of claim 4, where the distributed systems management protocol is an open standard.

6. **(Original)** The method of claim 4, where the distributed systems management protocol is SNMP.

7. **(Currently Amended)** The method of claim 5, wherein offering access includes the software manager of a distributed systems management software application communicating across a network with the software agent using the distributed systems management protocol.

8. **(Currently Amended)** The method of claim 7, wherein the software agent communicates with the software manager of a distributed systems management software application using the distributed systems management protocol to raise a trap based on the dependency data included in the table.

9. **(Currently Amended)** A computer-based method for distributed systems management, including:

monitoring a first managed network device with a first software agent executing on the first managed network device, wherein the software agent is managed by a software manager executing remotely from the first managed network device;

collecting, by the software agent executing on the first network device, configuration data describing the first managed network device, wherein the configuration data is collected from communications between the first managed network device and a plurality of other network devices;

gathering, by the first software agent executing on the first managed network device, wherein the first agent gathers dependency data describing either a provider or a consumer dependency relationship between the first managed network device and a second network device, wherein said provider dependency relationship indicates that a problem at the first managed network device will propagate to the second network device, and said consumer dependency relationship indicates that a problem at the second network device will propagate to the first managed network device;

[[and]]

initiating, by the first managed network device, a second software agent to monitor the second device based on the dependency data gathered by the first software agent, wherein the second software agent executes on the second device; and
communicating the dependency data from the first software agent to the software manager.

10. **(Currently Amended)** The method of claim 9, wherein the first managed network device is managed by the software manager of a distributed systems management software application and the second network device is also managed by the distributed systems management software application at the time the dependency data is gathered by the first software agent.

11. **(Currently Amended)** The method of claim 9, wherein the first managed network device is managed by the software manager of a distributed systems management software application and the second network device is not being managed by the software manager of the distributed systems management software application at the time the dependency data is gathered by the first software agent.

12. **(Currently Amended)** A computer-based method for formatting dependency information for display, including:
 providing a display area having a linear border,
 selecting a root managed device residing in a distributed network for [[to]] display at a root distance from the border; and
 displaying a non-root managed device having either a provider or a consumer dependency relationship with the root managed device, wherein said provider dependency relationship indicates that a problem at the non-root managed device will propagate to the root managed device, and said

consumer dependency relationship indicates that a problem at the root managed device will propagate to the non-root managed device, and the dependency relationship has a length of at least one, the displaying including indenting the representation of the non-root managed device a predetermined distance away from the border, greater than the root distance and dependent upon the length of the dependency relationship.

13. **(Original)** The method of claim 12, wherein displaying further includes displaying a plurality of non-root managed devices in a tabular layout ordered according to a breadth-first search of devices joined by direct dependency relationships, the search beginning with the root managed device.

14. **(Original)** The method of claim 13, wherein the breadth-first search is constrained to a predetermined depth.

15. **(Original)** The method of claim 12, wherein displaying further includes displaying a plurality of non-root managed devices in a tabular layout ordered according to a depth-first search of devices joined by direct dependency relationships, the search beginning with the root managed device.

16. **(Original)** The method of claim 15, wherein the depth-first search is constrained to a predetermined depth.

17. **(Original)** The method of claim 12, wherein the predetermined distance for any such non-root managed device in the display area is determined by multiplying the length times a base predetermined distance.

18. **(Currently Amended)** A computer-based method for collecting dependency data specifying dependency relationships between networked resources, the method including:

monitoring a plurality of networked resources via a software agent executing on each of the networked resources, wherein the plurality of software agents are managed by a software manager executing remotely from the plurality of networked resources;

gathering, by the plurality of software agents executing on the networked resources, configuration data describing the plurality of networked resources, wherein the configuration data is collected from communications between the plurality of networked resources associated with a plurality of networked resources via a plurality of software agents, such that a software agent runs on each networked resource in the plurality of networked resources;

extracting, [[via]] by the plurality of software agents, dependency data from the gathered configuration data, the dependency data including data specifying either provider or consumer dependency relationships between the plurality of networked resources, wherein said provider dependency relationship indicates that a problem at a first networked resource will propagate to a second networked resource, and said consumer dependency relationship indicates that a problem at the second networked resource will propagate to the first networked resource; [[and]]

communicating the dependency data from the plurality of software agents to the software manager; and

adding at least a portion of the [[a]] dependency data to a central repository managed by the software manager of a manager application, wherein the portion of the dependency data added to the central repository is stored in the central repository separately from other configuration data.

19. **(Currently Amended)** The method of claim 18, wherein the networked resources ~~resource~~ are managed by the software manager of the manager application.

20. **(Currently Amended)** The method of claim 19, wherein, based on the portion of the dependency data included in the central repository, the software manager of the manager application initiates management of one or more additional resources not included in the plurality of networked resources.

21. **(Currently Amended)** The method of claim 20, wherein, the one or more additional resources that the software manager of the manager application initiates management of are specified as having dependency relationships with the plurality of networked resources.

22. **(Currently Amended)** The method of claim 18, wherein the manager application offers a client application access to the central repository, the access using a distributed systems management protocol.

23. **(Original)** The method of claim 22, wherein the distributed systems management protocol is SNMP.

24. **(Currently Amended)** An article comprising a machine-readable storage medium that stores executable instructions to collect dependency data specifying dependency relationships between networked resources, the instructions causing a machine to:

monitor a first managed networked resource via a software agent
executing on the first managed networked resource, wherein the software
agent is managed by a software manager executing remotely from the first
managed networked resource;

collect, by the software agent executing on the first managed

networked resource, configuration data describing [[a]] the first managed networked resource, wherein the configuration data is collected from communications between the first managed networked resource and one or more other networked resources ~~via a software agent executing on the first networked resource;~~

extract, [[via]] by the software agent, dependency data from the configuration data, the dependency data specifying either a provider or a consumer dependency relationship between the first managed networked resource and the one or more other networked resources, wherein said provider dependency relationship indicates that a problem at the first managed networked resource will propagate to the one or more other networked resources, and said consumer dependency relationship indicates that a problem at the one or more other networked resources will propagate to the first managed networked resource; [[and]]

populate a repository with the dependency data, wherein the repository is stored separate from other configuration data collected by the software agent; and

communicate the dependency data from the software agent to the software manager.

25. **(Currently Amended)** The article of claim 24, wherein the repository is stored on the first managed networked resource.

26. **(Currently Amended)** The article of claim 25, further including instructions causing the machine to:

collect dependency data from a plurality of networked resources including the first networked resource; and

store the dependency data in a repository centralized within the software manager of a distributed systems management environment,

wherein the centralized repository is stored in the distributed systems management environment separately from other configuration data associated with the plurality of networked resources.

27. **(Currently Amended)** An article comprising a machine-readable storage medium that stores executable instructions to communicate dependency data specifying dependency relationships between network devices, the instructions causing a machine to:

monitor a first managed network device via a software agent executing on the first managed network device, wherein the software agent is managed by a software manager executing remotely from the first managed network device;

collect, by the software agent executing on the first managed network device, configuration data describing [[a]] the first managed network device, wherein the configuration data is collected from communications between the first managed network device and one or more other managed network devices; via an agent executing on the first managed device;

extract, [[via]] by the software agent, dependency data from the configuration data, the dependency data specifying either provider or consumer dependency relationships between the first managed network device and the one or more other managed network devices resources, wherein said provider dependency relationship indicates that a problem at the first managed network device will propagate to the one or more other managed network devices resources, and said consumer dependency relationship indicates that a problem at the one or more other managed network devices resources will propagate to the first managed network device;

generate a table that includes the extracted dependency data, wherein the table is stored separate from other configuration data associated with

the first managed network device that has been collected by the software agent; [[and]]

offer access to the table, the access being offered via a dependency interface for a distributed systems management protocol on the software agent; and

communicate the dependency data from the software agent to the software manager.

28. **(Currently Amended)** An article comprising a machine-readable storage medium that stores executable instructions to manage distributed systems, the instructions causing a machine to:

monitor a first managed network device with a first software agent executing on the first managed network device, wherein the software agent is managed by a software manager executing remotely from the first managed network device;

collect, by the software agent executing on the first managed network device, configuration data describing the first managed network device, wherein the configuration data is collected from communications between the first managed network device and a second device;

wherein the first agent gathers gather, by the first software agent, dependency data describing either a provider or a consumer dependency relationship between the first managed network device and a second device, wherein said provider dependency relationship indicates that a problem at the first managed network device will propagate to the second device, and said consumer dependency relationship indicates that a problem at the second device will propagate to the first managed network device;

[[and]]

~~initiating~~ initiate, by the first managed network device, a second software agent to monitor the second device based on the dependency data

gathered by the first software agent, wherein the second software agent executes on the second device; and
communicate the dependency data from the first software agent to the software manager.

29. **(Original)** An article comprising a machine-readable storage medium that stores executable instructions to format dependency information for display, the instructions causing a machine to:

- provide a display area having a linear border;
- select a root managed device residing in a distributed network to display at a root distance from the linear border; and
- display a non-root managed device having either a provider or a consumer dependency relationship with the root managed device, wherein said provider dependency relationship indicates that a problem at the non-root managed device will propagate to the root managed device, and said consumer dependency relationship indicates that a problem at the root managed device will propagate to the non-root managed device, and the dependency relationship has a length of at least one, the displaying including indenting the representation of the non-root managed device a predetermined distance away from the linear border, greater than the root distance and dependent upon the length of the dependency relationship.

30. **(Original)** The article of claim 29, wherein the instructions causing a machine to display further include displaying a plurality of non-root managed devices in a tabular layout ordered according to a breadth-first search of devices joined by direct dependency relationships, the search beginning with the root managed device.

31. **(Original)** The article of claim 29, wherein the instructions causing a machine to display further include displaying a plurality of non-root managed devices in a tabular layout ordered according to a depth-first search of devices joined by direct dependency relationships, the search beginning with the root managed device.